

REMARKS

The above amendments to the above-captioned application along with the following remarks are being submitted as a full and complete response to the Office Action dated March 4, 2003 (U.S. Patent Office Paper No. 3). In view of the above amendments and the following remarks, the Examiner is respectfully requested to give due reconsideration to this application, to indicate the allowability of the claims, and to pass this case to issue.

Claims 1 to 17 are currently pending in this application. As outlined above, claim 1 is amended to correct formal errors and to more particularly point out and distinctly claim the subject invention. In addition, new claims 11 through 17 are hereby submitted for consideration. Applicants hereby submit that no new matter is being introduced into the application through the submission of this response.

Prior Art Rejections

Claims 1, 2, 4, and 5 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Yamashita *et al.* (U.S. Patent No. 6,320,630), hereinafter “the ‘630 patent”, taken with Asada *et al.* (U.S. Patent No. 5,963,287), hereinafter “the ‘287 patent” in view of Nomura (U.S. Patent No. 6,448,810) hereinafter “the ‘810 patent”.

Applicants have amended claim 1. Claim 1, in its amended form, further defines the element “plural lines” providing that “said plural lines are connected to the display control device individually”. Support for this amendment can be found in the Specification, starting on page 21, line 3 through page 28, line 11 and in the drawings, in figures 6 and 7.

In the Office Action, on page 3, lines 16 through 19, the Examiner asserts that “Yamashita *et al.* taken with Asada *et al.* does not teach each of the bus line and the clock signal

being divided into plural lines. Nomura teaches a bi-directional bus-repeater controller (col. 2, lines 18-45); Nomura further teaches bus lines being divided into plural lines (col. 11, lines 20-31 and Fig. 11);” Applicants respectfully would like to direct the Examiner’s attention towards the following: Nomura’s ‘810 patent discloses in Fig. 11 that each bus line 101a, 101b and 101c are connected by bi-directional repeaters 111 or 112. This structure differs from the one disclosed by amended claim 1. Nomura’s ‘810 patent teaches away from the teachings of the invention in that the signals transmitted through plural connected divided lines, and connected by bidirectional circuits, interfere with and affect each other.

In contrast, by employing the structure taught by claim 1, the interference can be avoided and individual signals can be transmitted on each of the divided lines.

Based on the arguments made above, Applicants respectfully submit that the combination of references does not disclose all the features of claim 1. Therefore, claim 1 is patentable over the combination of references.

Claims 2 through 8 depend from and add features to an allowable independent claim. Therefore they are allowable over the combination of references at least for the same reasons as claim 1 and for reasons contained therein.

Claim 7 stands rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Yamashita *et al.* (U.S. Patent No. 6,320,630), hereinafter “the ‘630 patent”, taken with Asada *et al.* (U.S. Patent No. 5,963,287), hereinafter “the ‘287 patent” in view of Nomura (U.S. Patent No. 6,448,810) hereinafter “the ‘810 patent” and in further view of Dong (U.S. Patent No. 6,338,630) hereinafter “the ‘8,630 patent”.

In the office action, on page 7, lines 4 through 6, the Examiner asserted that Yamashita, Asada, Nomura, and Chiba do not teach said LCD wherein the connector is provided in a lengthwise central portion of the circuit board.

The Examiner alleged that Dong teaches “a connector for inputting the display data and the clock signal from the display control device that is provided in a lengthwise central portion of the circuit board”. Applicants respectfully disagree.

The ‘8,630 patent recites in col. 2, line 18, the concept of "central portion", but this is in connection with the “insulative housing 12”. The ‘8,630 patent does not recite where the connector is located in the circuit board and makes reference only to the connector structure itself. Based on the arguments made above, it is respectfully submitted that the combination of references does not recite all the features of claim 7. Therefore, claim 10 is allowable over the combination of references.

Claim 8 stands rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Yamashita *et al.* (U.S. Patent No. 6,320,630), hereinafter “the ‘630 patent”, taken with Asada *et al.* (U.S. Patent No. 5,963,287), hereinafter “the ‘287 patent” in view of Nomura (U.S. Patent No. 6,448,810) hereinafter “the ‘810 patent” and in further view of Ode *et al.* (U.S. Patent No. 6,518,946) hereinafter “the ‘946 patent”.

Claim 8 is dependent and adds features to allowable claim 1. Claim 8 stands rejected over a combination of the same references as claim 1. Therefore, claim 8 is allowable based on same arguments, made above regarding claim 1.

Claim 9 stands rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Yamashita *et al.* (U.S. Patent No. 6,320,630), hereinafter “the ‘630 patent”, taken with Asada *et al.* (U.S. Patent No. 5,963,287), hereinafter “the ‘287 patent” in view of Nomura (U.S. Patent

No. 6,448,810) hereinafter “the ‘810 patent” and in further view of Chiba *et al.* (U.S. Patent No. 6,380,918) hereinafter “the ‘918 patent”.

In the Office Action on page 6, lines 4 through 6, the Examiner asserts that “Relative to claim 9, Yamashita *et al.* taken with Asada *et al.* in view of Nomura does not teach a connector for inputting the display data and the clock signal from the display device being provided in a portion other than a lengthwise end portion of the circuit board.”

The ‘918 patent discloses in Fig. 1 a connector 11 that has a portion other than a lengthwise end portion of the circuit board. This connector differs from the connector recited by claim 9. Claim 9 specifically recites a connector "for inputting the display data and the clock signal from the display control device".

The display control device recited by claim 9 is a part of liquid crystal display device. As clearly disclosed by Fig. 1 of the ‘918 patent, elements 13a and 13b are control circuits. The connector mentioned by claim 9 is equivalent to Chiba’s joiners 14a and 14b. The “joiners” are arranged lengthwise onto the end portion of the circuit board and do not have any portion oriented other than along a lengthwise end portion of the circuit board. Based on the above the Examiner’s attention is respectfully directed onto the fact that Chiba teaches an opposite structure to the one disclosed by claim 9, thus teaching away from our invention. Therefore, claim 9 is allowable over the combination of references.

Claim 10 stands rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Yamashita *et al.* (U.S. Patent No. 6,320,630), hereinafter “the ‘630 patent”, taken with Asada *et al.* (U.S. Patent No. 5,963,287), hereinafter “the ‘287 patent” in view of Nomura (U.S. Patent No. 6,448,810) hereinafter “the ‘810 patent” and in further view of Chiba *et al.* (U.S. Patent No.

6,380,918) hereinafter “the ‘918 patent” and still in further view of Dong (U.S. Patent No. 6,338,630) hereinafter “the ‘8,630 patent”.

In the Office Action, on page 7, lines 4 through 6, the Examiner asserts that Yamashita, Asada, Nomura, and Chiba do not teach said LCD wherein the connector is provided in a lengthwise central portion of the circuit board.

The Examiner alleges that Dong teaches “a connector for inputting the display data and the clock signal from the display control device that is provided in a lengthwise central portion of the circuit board”. Applicants respectfully disagree.

The ‘8,630 patent recites in col. 2, line 18, the concept of "central portion", but this is in connection with the “insulative housing 12”. The ‘8,630 patent does not recite where the connector is located in the circuit board and makes reference only to the connector structure itself. Based on the arguments from above, the combination of references does not recite all the features of claim 10. Therefore, claim 10 is allowable over the combination of references.

CONCLUSION

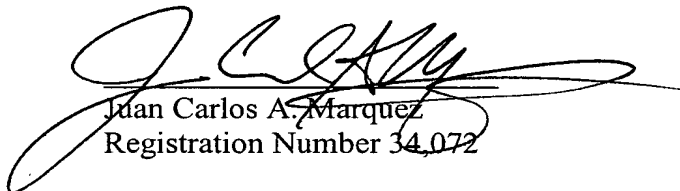
In view of all the above, Applicants respectfully submit that certain clear and distinct differences as discussed exist between the present invention as now claimed and the prior art references upon which the rejections in the Office Action rely. These differences are more than sufficient that the present invention as now claimed would not have been anticipated nor rendered obvious given the prior art. Rather, the present invention as a whole is distinguishable, and thereby allowable over the prior art.

Favorable reconsideration of this application as amended is respectfully solicited. Should there be any outstanding issues requiring discussion that would further the prosecution and

allowance of the above-captioned application, the Examiner is invited to contact the Applicant's undersigned representative at the address and phone number indicated below.

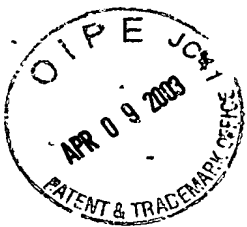
Respectfully submitted,

Stanley P. Fisher
Registration Number 24,344



Juan Carlos A. Marquez
Registration Number 34,072

REED SMITH LLP
3110 Fairview Park Drive
Suite 1400
Falls Church, Virginia 22042
(703) 641-4200
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MARKED-UP COPY OF THE CLAIM AMENDMENTS

1. A liquid crystal display device, comprising:
 - a liquid crystal display element;
 - plural driving circuits;
 - a display control device which transmits display data and a clock signal to the plural driving circuits; and
 - a circuit board which is provided between the display control device and the plural driving circuits and supplies the display data and the clock signal transmitted from the display control device, to each of the driving circuits via a bus line and a clock line in the circuit board,

each of the bus line and the clock signal line of the circuit board being formed in a continuous area of the circuit board and being divided into plural lines[.] ,

and said divided plural lines are connected to the display control device individually.